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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/309,211	05/10/99	MURVEIT	H NUAN-00800

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WM02/0411

EXAMINER

AZAD, A

ART UNIT	PAPER NUMBER
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2641

DATE MAILED:

04/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/309,211

Applicant(s)

MURVEIT ET AL.

Examiner

ABUL K. AZAD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-26, 28-40 and 42-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-26, 28-40 and 42-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on January 25, 2001.
2. Claims 1-10, 12-26, 28-40, and 42-58 are pending in this action. Claims 1, 4-7, 12, 17, 20-23, 32, 35-37, 42, 46 and 47 have been amended. Claims 11, 27 and 41 have been canceled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 48-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larkey (US 5,127,055).

As per claim 48, Larkey teaches, a speech recognition system comprising:

“an interface coupled to receive a remote session from a speaker” (Fig. 2, element 12, microphone);

“a processing system coupled to the interface to recognize the speaker’s speech (Fig. 1, element 14) wherein the processing system is cumulatively modified according to speech sample obtained during remote sessions with the speaker” (col. 4, lines 31-47, dynamically updated and adapted according to the incoming speech).

Larkey does not explicitly teach, “cumulatively modified . . . during a plurality of remote sessions with the speaker.” However, Larkey teaches that the stored reference

patterns are dynamically updated and adapted according to the incoming speech (col. 4, lines 31-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify speech patterns during a plurality of remote sessions with the speaker so as to update the reference model for better recognition performance.

As per claim 49, Larkey does not explicitly teach, "the speaker is a telephone caller." It would have been obvious to one of ordinary skill in the art at the time of the invention to use a telephone instead of a microphone because telephones can communicate to the speech recognizer from long distance.

As per claim 50, Larkey teaches, "wherein the processing system is modified by modifying an acoustic model" (col. 4, lines 31-47).

As per claim 51 and 52, Larkey does not explicitly teach, "wherein the processing system includes a memory for storing the acoustic model in association with an identification of the telephone caller." However, Larkey teaches, "a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, and providing reference patterns which better characterize a speaker's manner of pronouncing a selected word vocabulary. (col. 1, lines 51-56)" Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to train the system to know a speaker's manner of pronouncing a selected word vocabulary so that the system is trained to recognize speech and the user at the same time.

As per claim 53, Larkey teaches, "wherein the selected ones of the plurality of acoustic models are deleted when a predetermined period of time has elapsed since the corresponding speaker last engaged in a remote session with the voice recognizer" (col. 4, lines 31-47).

As per claim 54, Larkey teaches, "a method of adapting an acoustic model utilized for speech recognition," wherein the method comprises steps of:

"obtaining a sample of a speaker's speech during a remote session" (Abstract);

"recognizing the speaker's speech utilizing the speech recognition system during the remote session" (Abstract);

"making a determination relative to the speech utterance" (col. 4, lines 31-47

"modifying the acoustic model according to the speech utterance thereby forming a modified speech recognition system" (Abstract)

Larkey does not explicitly teach, "storing a representation of the modified acoustic model in association with an identification of the speaker." However, Larkey teaches, "a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, and providing reference patterns which better characterize a speaker's manner of pronouncing a selected word vocabulary. (col. 1, lines 51-56)" Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to train the system to know a speaker's manner of pronouncing a selected word vocabulary so that the system is trained to recognized speech and the user at the same time.

As per claim 55 and 56, Larkey teaches, "wherein the step of making the determination assigns a confidence level to the speech utterance and wherein the step of making the determination assigns a confidence level to each of a plurality of portions of the speech utterance" (col. 2, line 46-67).

As per claim 57, Larkey teaches, "wherein the step of making a determination determines a level of resource available for storing the representation of the modified acoustic model" (col. 4, lines 26-47).

As per claim 58, Larkey teaches, "wherein the step of making a determination determines a level of processing resources available for performing the step of modifying the acoustic model" (col. 4, lines 26-47).

5. Claims 1-10, 12-26, 28-40 and 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larkey (US 5,127,055) and further in view of Kanevsky et al. (US 5,897,616).

As per claim 1, Larkey teaches, "a method of adapting a speech recognition system, wherein the method comprises steps of:

"obtaining a sample of a speaker's speech during a first remote session"
(Abstract)

"recognizing the speaker's speech utilizing the speech recognition system during the first remote session" (Abstract)

"modifying the speech recognition system according to the sample thereby forming a modified speech recognition system" (Abstract)

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"using the representation of the modified speech recognition system to recognize speech during a subsequent remote session with the speaker" (col. 2, line 56 to col. 3, line 19)

Larkey does not explicitly teach, " modified speech recognition system in association with an identification of the speaker and modifying the speaker-specific speech model." Larkey teaches, "a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, and providing reference patterns which better characterize a speaker's manner of pronouncing a selected word vocabulary (col. 1, lines 51-56)." However, Kanevsky teaches to modify a speech recognition system in association with an identification of the speaker and modifying the speaker-specific speech model (col. 8, lines 16-35, voice print as user specific speech model). It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the speaker-specific speech model so that the system can be trained for specific speakers which would improve it's recognition performance.

As per claim 2, Larkey teaches, "comprising a step of cumulatively modifying the speech recognition system according to speech samples obtained during one or more remote sessions with the speaker" (Abstract, the quality values are updated, during the speech recognition process).

As per claim 3, it has similar limitations as claim 49, so claim 3 is also rejected for the same reasons.

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As per claim 4, Larkey teaches, "wherein the step of modifying the speech recognition system comprises a step of modifying an acoustic model thereby forming a modified acoustic model and wherein the step of storing a representation of the modified speech recognition system comprises a step of storing a representation of the modified acoustic model" (col. 2, line 56 to col. 3, line 13).

As per claim 5, Larkey teaches, "wherein the representation of the modified acoustic model is a set of statistics which can be utilized to modify a pre-existing acoustic model" (col. 2, lines 1-15).

As per claim 6, Larkey teaches, "wherein the representation of the modified acoustic model is a set of statistics which can be utilized to modify incoming acoustic speech" (col. 2, lines 1-15)

As per claim 7, Larkey teaches, "a step of utilizing the modified speech recognition system during the first remote session with the speaker" (col. 1, line 64 to col. 2, line 15).

As per claim 8, Larkey teaches, "wherein the speech recognition system is speaker-independent prior to first remote session" (col. 1, line 64 to col. 2, line 15).

As per claim 9, Larkey teaches, "wherein the step of modifying the speech recognition system is performed during the first remote session" (col. 1, line 64 to col. 2, line 15).

As per claim 10, Larkey teaches, "wherein the step of modifying the speech recognition system is performed after termination of the first remote session" (col. 2, lines 1-15).

As per claims 12 and 16, they are also rejected for the same reasons as stated above in claim 1.

As per claims 13-15, they have similar limitations as claims 8-10, so claims 13-15 are also rejected for the same reasons.

As per claims 17-26, 28-40 and 42-47, they have similar limitations as claims 1-10, and 12-17, so claims 17-26, 28-40 and 42-47 are also rejected for the same reasons.

Response to Arguments

6. The applicant argues as: "Larkey does not teach a user-specific recognition system where a speaker-specific model is stored and updated according to the incoming user utterance."

7. Applicant's arguments with respect to claim 1-47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **William Korzuch**, can be reached at **(703) 305-6137**.

Any response to this action should be mailed to:

Commissioner for Patents

Washington, D.C. 20231

Or faxed to:

(703) 305-9508

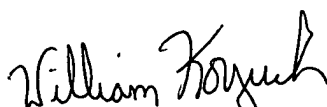
(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is **(703) 305-4700**.

Abul K. Azad

April 9, 2001


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
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